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Corporate Governance and International Location Decisions of Multinational Enterprises

Lammertjan Dam*, Bert Scholtens and Elmer Sterken

This paper analyses international location decisions of corporations based on corporate governance considerations. Using firm level data on 540 Multinational Enterprises (MNEs) with 44,149 subsidiaries in 188 countries, we test whether firms with relatively good governance standards are more often located in countries with a weak governance system. We find empirical support for this hypothesis, especially for those corporations present in low-income countries.

Keywords: Corporate governance, location behaviour, corporate social responsibility, multinational enterprises

1. Introduction

This paper analyses whether corporate international location decisions are driven by differences in national governance systems. For example, do multinational firms look for direct investment opportunities in countries with weaker governance than at home? A firm that is confronted with high pressure from stakeholders at home might find it attractive to shift production to an economy with less strict governance codes. In this way, domestic corporate governance institutions might impact international location choices in a firm-specific way. For instance, environmental and human rights pressure groups' actions with respect to Royal Dutch and Nike have affected their corporate governance codes as well as their international production and location decisions. Firms that have weak corporate governance codes might consider it more profitable to produce with capital intensive technologies in a country with a well-structured governance system. In general, economic theory on international location decisions argues that these decisions depend on the one hand on a number of standard factors (a comprehensive theoretical discussion is given by Billington, 1999), but on the other hand also on institu-

tions, like the quality of environment, political, legal, and social factors (Boddewyn, 1988).

In order to improve our understanding of the role of institutions in general in Multinational Enterprises' (MNEs) location decisions, we need insight into the impact of governance institutions on location decisions. Firms that e.g. are inclined to be relieved from shareholder pressure may want to start or continue business in economies with less strict codes. Conversely, firms with rather poor governance standards that want to start a project, may be interested in locating in countries with well-developed governance standards. It remains an empirical issue to identify these two views.

This paper starts with a brief review of the literature on international location activity, the candidate role for governance institutions and the corporate performance-governance nexus in section 2. As we show, there is relatively little attention for the role of institutions like governance in this literature so far. In section 3 we argue that in order to establish an active role for governance, we need to know about the interaction between corporate performance and governance. Next, we describe in section 3 the data and discuss the descriptive statistics. In section 4 we present our

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methodology. Section 5 gives the analysis and results. Finally, in section 6, we summarise and conclude.

2. International location activity, governance, and firm performance

In this section, we review the literature on international location decisions, the candidate role of institutions in general and governance in particular, and the impact of governance on firm performance.

International location decisions by MNEs are complex corporate decisions. Two strands of literature describe the main determinants of location choice: the traditional theory on Foreign Direct Investment (FDI) (see e.g. Markusen, 1995) and the so-called new economic geography (see e.g. Brakman *et al.*, 2001). The "traditional" theory focuses e.g. on the role of local costs, access to production factors, transportation costs, relative size and market power. It is commonly believed that so-called horizontal investments are more likely in the case of large markets and high transportation costs, while vertical investments arise when local costs are relatively low. Besides these rather standard arguments, public policy of course also affects location decisions. The second strand of literature, the new economic geography, focuses on spatial imperfections that affect location choice and performance. A firm might want to be in a region where competitors run a successful business, but increased competition reduces this attractiveness.

According to Blonigen (2005), the growth of MNE activity in the form of foreign FDI has grown faster than most other international transactions in the last decades. Therefore it is important to know what the determinants of MNEs' location decisions are. Empirical research on factors that determine FDI patterns and the impact of MNEs on parent and host countries is in its developing stage. As Blonigen (2005) argues, the literature has shown that it cannot simply be concluded that factors such as exchange rates or tax policies have an unambiguous general impact on FDI patterns. Blonigen discusses that firm-specific characteristics, like the availability of intangible assets, such as technologies or managerial skills, are important, but typically hard to measure, and so are problematic in empirical studies. Using empirical proxies, like R&D and advertising, reveals that firms that lack innovation, as compared to their peers, typically are engaged more in FDI (see Blonigen, 1997).

One can distinguish partial and general equilibrium approaches to FDI and location

decisions.¹ In partial equilibrium models, exchange rate effects, taxes, and tariffs are used as determinants. For instance, if a currency appreciates, the price of a local project will decrease for a foreign investor, but the nominal return on the project's probably will not. Tax issues are most complicated and empirical evidence of the impact of changes in corporate and indirect tax rates is mixed at least (see e.g. Desai *et al.*, 2004). Trade protection might be another determinant of international MNE location decisions. If a firm can avoid tariffs by substituting production for exports, this would be a high-potential candidate determinant of location decisions. Belderbos (1997) indeed finds evidence of this so-called tariff-jumping FDI.

Blonigen (2005) points at the potentially valuable role of institutions as a determinant of FDI, particularly for less-developed economies. For example, poor legal protection of assets increases the chances of expropriation of corporate assets, reducing the probability of FDI. Poor quality of institutions also lowers expected profitability and, therefore, reduces the probability of successful FDI. Blonigen further argues that it is hard to find good empirical proxies for institutions, since these are typically hard to measure. Most measures are composite indices developed from survey responses from government officials and businessmen familiar with the country involved. This troubles cross-country comparability, because the sampling of respondents might differ per country. An exception is the direct measurement of institutions like legal standards (see La Porta *et al.*, 1997), which have been extensively used in the literature on finance and development. Legal institutions can be measured directly from legal codes, but still are prone to interpretation issues if it comes to details (like the measurement of shareholder protection). Another problem in the empirical literature that tries to estimate the impact of the role of institutions on economic variables is the fact that institutions tend to change very slowly. This troubles our country time series analysis and favours a cross-sectoral approach (see for instance Levine and Zervos, 1998, for an example in the law and finance literature). One of the institutional variables used in some of the FDI literature is corruption: Wei (2000) for instance finds that FDI is negatively related to corruption, but Wheeler and Mody (1992) do not find support for the negative role of corruption.

Other examples of empirical partial location studies are e.g. Basile *et al.* (2003) and Yamawaki (2006) on FDI in the EU. These studies estimate (conditional) choice models of location decisions. The econometric specifica-

tion is mostly a (nested) logit model of the binary choices to be represented in a specific country. Boddewyn (1988) points out that the non-market environment to a large extent affects the efficiency of MNE performance. The literature acknowledges that politics is of great importance to MNEs (see Ring *et al.*, 1990; Brewer, 1992; Sundaram and Black, 1992; Murtha and Lenway 1994), but that other actors are not well covered (Baron, 2001). Dunning (1993) argues that any theory of MNE activity that does not seek to understand and explain the role of governments and other stakeholders as just another variable impacting upon firm behaviour is bound to be deficient. There also is a literature on FDI location decisions and political country risk. The empirical literature finds mixed results. Oneal (1994) finds that authoritarian regimes provide higher returns to investors. Li and Resnick (2003) show that non-democratic institutions attract higher levels of FDI. Busse (2004), on the other hand, finds that democratic institutions lead to a higher inflow of FDI. Jensen (2003) finds that MNEs pay lower premiums for political risk insurance coverage in democratic regimes.

We focus on governance in international location decisions. Firms having footage in an economy with strict governance codes may find it attractive to shift operations to countries with less strict governance codes. The latter type of behaviour can be compared with the so-called pollution haven hypothesis that holds in environmental economics: a polluting firm looks for a county that allows more pollution than its home country (Letchumanan and Kodama, 2000). But the evidence might also turn to the opposite: firms benefit from well-developed governance and can freely expand corporate activity. Then, our null hypothesis is that the governance standard of the firm is not related to its international location decision. A null hypothesis also is that the governance standard of the country of destination is not related to its attractiveness with respect to FDI. The alternative hypothesis in both cases is that governance does matter. Furthermore, we explicitly test whether firms with relatively low (high) governance standards are more often locating in countries with relatively low (high) governance standards. Among others, we will also condition for wealth of the host country.

A precondition for an effective role of governance though is that governance affects corporate performance. Therefore, it is important to shortly review corporate governance and the different views on the performance-governance nexus. Governance is defined as the set of informal arrangements that are

used in handling the consequences of these unforeseen states of the world. Since the work of Shleifer and Vishny (1997), control rights of financiers are considered to be the key elements in governance, especially if ownership is widely spread (see Dyck and Zingales, 2004). Nowadays listed firms are required to satisfy ingenious governance codes, which basically enable financiers to get a more direct influence on corporate decisions. There is a fundamental debate on the relation between governance and performance though. Agency costs that arise from the differences in interest of managers and financiers can lead to either over- or underinvestment. The most famous strand of the literature is that on overinvestment, as initiated by Jensen and Meckling (1976): Managers try to benefit from the fact that they have access to information that is undisclosed to outsiders, especially if objectives and/or risk attitudes of managers and banks are not aligned due to pay-off structures or intrinsic motivations of the managers (see also Tirole, 2006). For instance, managers may try to enjoy fringe benefits, set up "small empires", or engage in risky projects – activities which are partly unobservable to the bank and not necessarily performance enhancing.

Information asymmetries can also lead to underinvestment. First, when creditors have less information about a firm and its investment prospects, they will demand a premium for supplying more finance. Consequently, the cost of external funds will exceed that for internal funds (see e.g. Bernanke and Gertler, 1989, for a theoretical exposition and Whited, 1992, for an empirical support). Second, underinvestment may also arise because of managerial shirking. In the model of Aggarwal and Samwick (1999), managers forego profitable projects that have net private costs to them. These costs are generated by increased oversight due to the new investment project. Third, the "Managerial Myopia" model argues that e.g. equity markets may not allocate capital efficiently because of the absence of dedicated investors with a long-term horizon (see, for example von Thadden, 1995; Tirole 2006, p. 300).

Thus a more strict governance code might lead to a better or worse performance of the firm. Therefore, it remains an empirical issue whether firms like to operate in more strict governance environments. It is likely that firms that want to be freed from local pressure are trying to locate firm activity in countries with less strict governance codes and ways of conduct. We test our main hypothesis whether firms with relatively low governance standards are more often located in countries

with poor governance related regulations, i.e. a weak business environment, conditioning for “normal” determinants of location choices. It appears that firms with a relatively high quality of corporate governance do not avoid countries with poor governance standards. Next, we test whether these results hold especially for low-income countries, because these countries in general have poorer governance structures. Our data support this second hypothesis as well. We will focus explicitly on the governance of corruption, of business ethics, and corporate social responsibility (driven by data availability). These indicators are, of course, closely correlated at the firm level with other indicators of corporate governance, like the composition of the board of directors, compensation, ownership, etc.

3. Data

Data on firm responsibility is taken from the Ethical Investment Research Service (EIRIS). EIRIS has composed a cross-sectional dataset which covers 2685 MNEs, located across the globe, and contains information on company policy, corporate reporting as well as on breaches by or convictions of the MNE. The topics that are included are environmental issues, stakeholder issues, governance, business ethics, and genetic engineering. Ratings between -1 and 3 are assigned. The details on Corporate Social Responsibility-scoring are in Table B of the Appendix. We use four indicators of governance quality: *Governance of bribery and corruption*, *Governance code of ethics*, *Governance code of ethics systems* and *Governance of business principles*. This choice is mainly driven by data availability. Indicators of the quality of governance of corruption, business ethics, and corporate social responsibility, of course are correlated to other indicators of the quality of shareholder influence, like ownership, board composition, etc. We consider these indicators to have an underlying latent variable that measures the quality of a firm's governance. We apply factor analysis on the four indicators to generate a single factor, named “*Governance*”, and use this factor in our econometric analysis.

Data on the international location of firms is extracted from the reported subsidiaries of European firms. To this extent, we use AMADEUS, a database that contains accounting information for a large number of European firms. Note that a subsidiary can have subsidiaries itself. Accordingly, AMADEUS classifies subsidiaries at different accounting levels, where each subsidiary level is divided

into sublevels. We look at the subsidiaries at the highest reported level and use information on the country location of the subsidiary and the most recent information on sales and assets of the subsidiary (2004–2005). Our starting point is the Dow Jones Stoxx 600 selection list of largest European companies. After omitting financials and banks, we created a pooled and balanced cross-section data set of the 540 companies. Table 1 gives an overview of the number of MNEs in our dataset, classified by the country in which the company is chartered and by the industry the company is in. Overall, most MNEs are based in the UK and a ranking of the number of MNEs in each country is in accordance with what one would expect given countries' population sizes. An exception is Switzerland, which is relatively overrepresented. For each company we have information on its presence in 233 countries, yielding a vector of 125,820 observations. Surely, not each individual firm has operations in every country. Impressively however, in 188 of the 233 countries, at least one multinational is present. Table 2 gives an overview of the average number of countries an MNE is operating in by region and industry. We also visualise the global presence of MNEs in Figure 1. On average, an MNE is active in 17 countries. Firms producing basic materials are on average active in more countries than firms in other industries, mainly because they have a large share of activities in the European market. It appears that the oil and gas industry is most evenly scattered across the globe. The utilities industry scores the lowest on international presence. Moreover, most MNEs are active in the U.S. and Canada. The Eastern Asian, European and North American markets are by far the most attractive in absolute as well as in relative numbers.

We also extracted firm specific control variables from the AMADEUS database. Here, we aim at variables that give a description of the structure of the firm, as the literature treats the location and the governance of the firm as structural characteristics too. The firm-specific variables are *Age of the MNE in years*, *number of Employees*, *Leverage*, as measured by debt divided by total assets, and *Liquidity*. Furthermore, we extracted *Market Capitalisation* in billions of euros from the Dow Jones Stoxx 600 selection list. As such, we include both accounting (i.e. book) and financial market data to describe the structure of the firm. An overview of the descriptive statistics of the variables is in Table 3. We need to control for the individual conditioning drivers of location decisions. For example, firm size, measured by the number of employees or age of the firm, the cash posi-

Table 1: Number of MNEs by industry and home country (by charter)

Country	Basic Materials	Consumer Goods	Consumer Services	Health Care	Industrials	Oil & Gas	Technology	Telecommunications	Utilities	All
Austria	1	0	0	0	2	0	0	1	1	5
Belgium	2	1	2	1	1	0	0	2	1	10
Switzerland	5	4	1	8	10	0	2	1	0	31
Germany	5	9	7	7	14	0	3	1	2	48
Denmark	0	2	0	5	3	0	0	1	0	11
Spain	0	2	10	1	8	3	2	2	6	34
Finland	3	2	2	0	2	1	2	1	0	13
France	2	12	14	2	13	2	8	1	2	56
United Kingdom	15	32	73	9	61	7	19	6	12	234
Greece	0	1	2	0	1	1	0	2	1	8
Italy	0	4	7	0	4	2	1	3	6	27
Luxembourg	0	0	0	0	1	0	0	0	0	1
Netherlands	2	5	4	1	4	4	5	1	0	26
Norway	2	1	0	0	1	1	1	1	0	7
Portugal	0	0	1	0	1	0	0	1	1	4
Sweden	3	4	2	3	9	1	1	2	0	25
All	40	79	125	37	135	22	44	26	32	540

tion, measured by liquidity, and borrowing capacity, measured by leverage, all can have an impact on location decisions.

If one compares the median to the mean values of the variables *Age*, *Employees*, *Leverage* and *Liquidity* in Table 3, it becomes clear that these variables are characterised by a heavily skewed distribution. For example, the average MNE has 35,048 employees, whereas the median MNE has 12,854 employees. To control for the statistical consequences of these skewed distributions we use the natural logarithm of the variables in estimation. As expected, *Employees* and *Market Capitalisation* are highly correlated (correlation coefficient equals 0.61; see the right hand side of Table 3). Larger firms require both more capital and more labour. *Age* shows a significant correlation with *Employees* as well as with *Market Capitalisation*. One can argue that growth of MNEs is initially high, but as a certain level of size is reached, the additional years will not matter. *Liquidity* and *Leverage* do not show significant correlations with other firm characteristics. Furthermore, Table 3 reveals that the quality of corporate governance – as repre-

sented by our variable *Governance* – does not show a significant correlation with any other variable.

To measure a country's governance standard we use the Kaufmann *et al.* (2005) dataset. This dataset presents estimates of six dimensions of governance covering 209 countries and territories for five time periods: 1996, 1998, 2000, 2002 and 2004. The dimensions are Voice and Accountability, Political Stability and Absence of Violence, Government Effectiveness, Regulatory Quality, Rule of Law, and Control of Corruption. Higher levels indicate better regulation in a country and/or less uncertainty in the business environment. We provide detailed variable definitions in Table B of the Appendix.

4. Methodology

A commonly used econometric modelling technique in the literature of location choice, is the conditional logit model (see McFadden, 1974). We stay close to the literature and adopt this binary location choice model. We assume

Table 2: Average number of countries in which MNEs are operating by industry and region

Region (Total #Countries)	Industry								
	Basic Materials	Consumer Goods	Consumer Services	Health Care	Industrials	Oil & Gas	Technology	Telecommunication	Utilities
Africa (58)	2.1	2.1	0.7	0.8	1.5	3.4	0.5	0.5	0.3
Antarctica (4)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Caribbean and Bahamas (21)	0.4	0.5	0.1	0.2	0.3	1.0	0.2	0.7	0.1
Central and North America (13)	2.6	2.2	0.9	2.4	1.8	2.5	1.7	1.2	1.0
Eastern Asia (25)	4.3	3.6	1.2	3.9	2.4	2.1	2.6	0.8	0.4
Europe (45)	12.0	11.2	6.2	12.0	9.3	8.0	8.3	7.4	4.6
Middle East (15)	0.6	0.8	0.3	0.5	0.6	1.0	0.3	0.3	0.2
Oceania (29)	1.0	0.8	0.3	1.0	0.6	0.6	0.4	0.1	0.2
South America (13)	2.8	2.1	0.7	1.7	1.6	2.3	1.1	0.9	1.3
Western Asia (10)	0.2	0.2	0.1	0.1	0.1	0.3	0.1	0.0	0.0
World (233)	25.8	23.4	10.5	22.6	18.3	21.1	15.3	12.0	8.0
									<i>Average MNE</i>

The table entries are industry averages of the number of countries an MNE is operating in per region. Total number of countries per region is in parentheses. A list of countries included is in Table A in the Appendix. The column *Average MNE* is a sample average irrespective of industry and the row *World* is a sample average irrespective of Region.

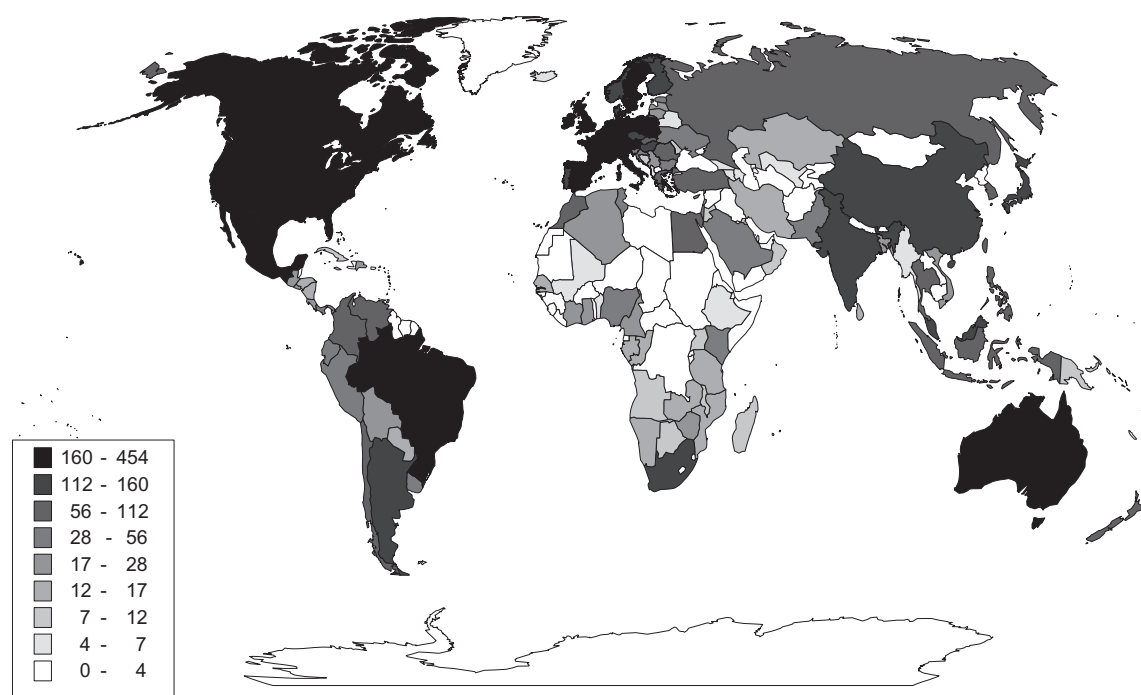


Figure 1: Global presence of multinational enterprises

Table 3: Descriptive statistics of multinational enterprises

	Correlations*										
	Min	Max	Mean	Standard Deviation	Median	Age	Employees	Market Capitalisation	Liquidity	Leverage	Governance
Age in Years	0	171	46	40	31	1.00					
Employees	35	419,200	35,048	60,985	12,854	0.26	1.00				
Market Cap.	0.13	155.89	6.37	14.75	1.95	0.15	0.61	1.00			
Liquidity	0.08	16.72	1.3	1.22	1.01	-0.04	-0.08	-0.02	1.00		
Leverage	0.05	1.51	0.62	0.18	0.63	0.03	0.26	0.03	-0.23	1.00	
Governance**	-1.95	1.22	0	1	0.36	0.03	0.27	0.36	-0.02	0.03	1.00

* In these correlations and all subsequent calculations, natural logarithms have been taken of *Age*, *Employees*, *Market Cap.* and *Liquidity* to account for the skewed distribution.

** Factor scores of the four Social Responsibility indicators on Governance listed in Table B in the Appendix.

For variable Definitions see Table B in the Appendix.

Sources: AMADEUS, EIRIS.

that the choice of the subsidiary location is the dependent variable. For each MNE we explain the choice of whether or not to be present in a country. We construct a binary variable Y_{ij} which is equal to 1 if company i has at least one subsidiary in country j . We assume that the benefits (i.e. the profitability) B_{ij} to MNE i ($i = 1, \dots, N$) of locating in country j ($j = 1, \dots, J$) is a latent variable:

$$B_{ij} = D_{ij} + \varepsilon_{ij}$$

Here, D_{ij} is the deterministic part and ε_{ij} the error term. D_{ij} is related to country characteristics z_j and parent-level firm group characteristics x_{kj} in the following way:

$$D_{ij} = x_{kj}\beta + z_j\gamma$$

Here, we put a subscript j in the term x_{kj} , since we do not a priori exclude possible interaction between parent-level firm group characteristics and country characteristics. The MNE chooses the location if the benefits are large enough, say larger than a threshold B^* , and we only observe this outcome. The probability of observing MNE i choosing location j is:

$$P_{ij} = P(Y_{ij} = 1) = P(B_{ij} > B^*)$$

The actual outcome, given D_{ij} , eventually depends on the distribution of the error terms ε_{ij} . We want to test whether there is a significant *interaction* effect between a firm's corporate governance scores and a country's business environment and therefore delegate any *direct* country effect to the country fixed effects. Unfortunately, this means that we cannot observe which country characteristics drive its attractiveness to MNEs besides governance issues. As such, we ensure that we fully control for observable and unobservable country characteristics. We add the following firm level control variables: *Age*, *Employees*, *Leverage* (as measured by debt divided by total assets), *Liquidity*, and *Market Capitalisation*. Due to skewness of the distribution of most of the variables, we take the logarithms, except for *Leverage*. Furthermore, we create a "home" dummy, which is equal to one if we consider subsidiaries located in the same country as where the MNE is based. We omit the observations for which this dummy is equal to one. There has been some debate whether cultural distance is an important determinant in international diversification, e.g. a meta-analysis by Tihanyi *et al.* (2005) indicates that these differences do not seem to matter, particularly for MNEs based outside the US. Nonetheless, we add a colonial dummy variable, which is equal to one if the country where the subsidiary is located is a former colony of the country

where the MNE is headquartered. Please note that cultural variables are all well approximated by this dummy (see also Tihanyi *et al.*, 2005).

5. Results

We estimate the following equation:

$$E[Y_{ij}] = \Lambda(\alpha_j \text{Country}_j + \beta_k \text{Industry}_k + \eta \text{FormerColony}_i + \gamma_i \text{Firm}_i + \delta (\text{Governance}_i \times \text{Business Environment}_i))$$

$Y_{ij} = 1$, if MNE i is present in country j . Λ is the logistic function. We estimate a conditional logit function and condition on *Country* fixed effects. *Firm_i* are the reported firm characteristics, *Industry* are industry dummies, and *FormerColony* is a dummy which indicates if a country is a former colony of the country where the MNE is based. For *Business Environment*, we use *Control of Corruption*, *Government Effectiveness*, *Political Stability*, *Regulatory Quality*, *Rule of Law* and *Voice and Accountability*. Higher values of *Governance* indicate better Corporate Governance, higher values of *Business Environment* indicate better regulation and/or lower levels of uncertainty. To account for potential clustering, we calculate t-values using the Huber-White robust standard errors. The estimation results are presented in Table 4.

Note that in Table 4 we do not report country and industry fixed effects. We see that in all five equations, the parameter estimates of the number of *Employees*, the *Market Capitalisation* and *Age* are significant. Clearly, larger and older firms operate in more countries, since they have had the time to grow and the resources to expand. With respect to our financial indicators, we find that the impact of *Liquidity* is significantly positive and that of *Leverage* is significantly negative. Having enough liquid assets within the firm seems to be a requirement for international expansion. Furthermore, highly leveraged firms seem to be hindered with respect to international expansion. In all our estimations, the estimated parameter of *FormerColony* is positive and significant, indicating that colonial history remains to be important for current business affairs. Recall that the *FormerColony* dummy is almost identical to a common language dummy, so we cannot determine whether the observed positive effect is purely due to historical ties, or due to a comparative advantage in communication.

The quality of corporate governance – as reflected by our variable *Governance* – has a positive influence on international location

decisions. We also find a significant and robust relation between the quality of corporate governance and country business environment. The parameter estimates of the interaction between on the one hand *Governance* and on the other hand *Control of Corruption*, *Government Effectiveness*, *Political Stability*, *Regulatory Quality*, *Rule of Law* and *Voice and Accountability* are all negative and significant. From this result, it appears that firms with relatively better corporate governance do not avoid countries with poor governance standards: these firms are relatively more often located in those countries. This was to be expected, as this type of location choice behaviour can only be advocated successfully to the stakeholders of the company when corporate governance standards are high. In this case, various stakeholders trust the MNE to deal with unforeseen events in the appropriate way. Apparently, only companies that have strong corporate governance can deal with uncertainties that are associated with operating in countries with poor governance.

Additionally, we split our sample in three groups of countries, high-income, middle-income, and least-developed countries² to assess whether the level of economic development has an impact on the location decision-governance nexus. Table 5 provides the results of the estimations for the sub sample of Low Income Countries (non-OECD countries and other non-high income countries as classified by the World Bank). Table 5 shows virtually the same results as in Table 4. However, if we estimate the same model for the high-income countries,³ we find no significant interaction effect between firm governance and country governance indicators. This indicates that especially when it comes to location decisions in developing countries, governance does matter.

To illustrate the differences between high-income, middle-income, and least-developed countries we present the estimation results for one of the country governance indicators, *Control of Corruption*. These results (presented in columns 1–4 of Table 6) are representative for the results of each individual indicator.

On the basis of Table 6, we establish that the interaction effect that we find for the entire sample is not significant when we focus on the high-income countries, but it is significant at the 1 per cent significance level for the low- and middle-income countries and at the 5 per cent significance level for the lowest income countries. Apparently, corporate governance standards are more important for location decisions when it comes to governance differences in developing countries. In short, only MNEs with high governance standards choose to locate in countries with poor business envi-

Table 4: Country presence of MNEs and corporate governance

Model:	1	2	3	4	5	6
	Control of Corruption	Government Effectiveness	Political Stability	Regulatory Quality	Rule of Law	Voice and Accountability
Variable	Coefficient (t-value)					
<i>Log MarketCapitalisation</i>	0.236*** (13.77)	0.235*** (13.73)	0.237*** (13.79)	0.236*** (13.75)	0.235*** (13.72)	0.237*** (13.85)
<i>Log Age</i>	0.303*** (19.83)	0.303*** (19.85)	0.303*** (19.87)	0.303*** (19.85)	0.303*** (19.83)	0.303*** (19.85)
<i>Log Liquidity</i>	0.254*** (9.42)	0.254*** (9.43)	0.253*** (9.42)	0.254*** (9.42)	0.254*** (9.43)	0.253*** (9.39)
<i>Leverage</i>	-0.304*** (-2.67)	-0.304*** (-2.67)	-0.303*** (-2.66)	-0.303*** (-2.66)	-0.304*** (-2.67)	-0.303*** (-2.66)
<i>Log employees</i>	0.411*** (22.68)	0.411*** (22.69)	0.411*** (22.66)	0.411*** (22.69)	0.411*** (22.69)	0.411*** (22.65)
<i>Former Colony</i>	0.671*** (5.23)	0.672*** (5.23)	0.665*** (5.17)	0.667*** (5.21)	0.673*** (5.23)	0.655*** (5.09)
<i>Governance</i>	0.068*** (3.40)	0.081*** (3.74)	0.045** (2.30)	0.075*** (3.39)	0.069*** (3.33)	0.053*** (2.70)
<i>Governance × Control of Corruption</i>	-0.086*** (-5.69)					
<i>Governance × Government Effectiveness</i>		-0.096*** (-5.53)				
<i>Governance × Political Stability</i>			-0.105*** (-5.69)			
<i>Governance × Regulatory Quality</i>				-0.104*** (-5.67)		
<i>Governance × Rule of Law</i>					-0.097*** (-5.91)	
<i>Governance × Voice and Accountability</i>						-0.084*** (-4.58)
<i>Pseudo R²</i>	0.148	0.148	0.148	0.148	0.148	0.148
<i>Number of Observations</i>	81,597	82,058	82,058	81,597	82,058	82,058

The estimated logit model is: $\text{Presence} = E[Y_{ij}] = \Lambda(\alpha_i \text{Country}_j + \beta_k \text{Industry} + \eta \text{FormerColony} + \gamma \text{Firm}_i + \delta(\text{Governance}_i \times \text{Business Environment}_i))$. $Y_{ij} = 1$ if MNE i is present in country j . Λ is the logistic function, conditional on *Country* fixed effects. *FormerColony* = 1 if the country is a former colony of the country where the MNE is based. *Firm_i* are the reported firm characteristics. *Industry* are industry dummies. For *Business Environment* we use *Control of Corruption*, *Government Effectiveness*, *Political Stability*, *Regulatory Quality*, *Rule of Law* and *Voice and Accountability* respectively. Higher values of *Governance* indicate better Corporate Governance, higher values of *Business Environment* indicate better regulation and/or lower levels of uncertainty. For brevity sake, the country and industry fixed effects are not reported. Definitions of the variables are in Table B of the appendix. The t-values are calculated using the Huber-White robust standard errors.* indicates significance at ten, ** at five, and *** at one per cent, respectively.

ronments, and this is especially true for low-income countries. Table 6 also reveals that the financial position of the firm as indicated by leverage is not relevant to location decisions in high-income countries, but it is so in middle- and lower-income countries.

The results can in fact be interpreted in two ways. The evidence suggests that there are opportunities for good corporate governance companies to locate their subsidiaries in countries with less strict governance systems.

Second, it could be that there are incentives for bad corporate governance companies to shift some operations to countries with stronger governance rules. Whether the negative sign of the interaction between company and country governance indicators is due to the first hypothesis or the second is unclear so far. We therefore split up our sample in subsets of high-governance and low-governance-countries and estimate our model, omitting the now obsolete interaction effect. The estima-

Table 5: Country presence in low and middle income countries of MNEs and corporate governance

Model:	1	2	3	4	5	6
	Control of Corruption	Government Effectiveness	Political Stability	Regulatory Quality	Rule of Law	Voice and Accountability
Variable	Coefficient (t-value)					
Log Market Capitalisation	0.253*** (10.69)	0.253*** (10.61)	0.254*** (10.69)	0.253*** (10.66)	0.253*** (10.67)	0.254*** (10.72)
Log Age	0.333*** (16.02)	0.333*** (16.05)	0.333*** (16.05)	0.333*** (16.02)	0.333*** (16.01)	0.333*** (16.02)
Log Liquidity	0.181*** (5.59)	0.181*** (5.61)	0.181*** (5.59)	0.180*** (5.58)	0.181*** (5.60)	0.180*** (5.58)
Leverage	-0.837*** (-5.14)	-0.837*** (-5.14)	-0.838*** (-5.15)	-0.838*** (-5.14)	-0.838*** (-5.14)	-0.838*** (-5.15)
Log employees	0.492*** (24.14)	0.492*** (24.16)	0.492*** (24.14)	0.492*** (24.14)	0.492*** (24.16)	0.492*** (24.14)
Former Colony	0.799*** (4.37)	0.805*** (4.39)	0.800*** (4.33)	0.797*** (4.33)	0.805*** (4.40)	0.798*** (4.33)
Governance	0.032 (1.45)	0.051** (2.13)	0.035 (1.60)	0.051** (2.25)	0.035 (1.60)	0.053** (2.39)
Governance × Control of Corruption	-0.102*** (-2.95)					
Governance × Government Effectiveness		-0.115*** (-3.26)				
Governance × Political Stability			-0.072*** (-2.66)			
Governance × Regulatory Quality				-0.075*** (-2.66)		
Governance × Rule of Law					-0.095*** (-3.09)	
Governance × Voice and Accountability						-0.044* (-1.78)
Pseudo R ²	0.171	0.171	0.171	0.171	0.171	0.170
Number of Observations	61,313	61,313	61,313	61,313	61,313	61,313

The estimated logit model is: $\text{Presence} = E[Y_{ij}] = \Lambda(\alpha_j \text{Country}_j + \beta_k \text{Industry}_k + \eta \text{FormerColony}_i + \gamma \text{Firm}_i + \delta(\text{Governance}_i \times \text{Business Environment}_i))$. $Y_{ij} = 1$ if MNE i is present in country j . Λ is the logistic function, conditional on *Country* fixed effects. *FormerColony* = 1 if the country is a former colony of the country where the MNE is based. *Firm_i* are the reported firm characteristics. *Industry* are industry dummies. For *Business Environment* we use *Control of Corruption*, *Government Effectiveness*, *Political Stability*, *Regulatory Quality*, *Rule of Law* and *Voice and Accountability* respectively. Higher values of Governance indicate better Corporate Governance, higher values of *Business Environment* indicate better regulation and/or lower levels of uncertainty. For brevity sake, the country and industry fixed effects are not reported. Definitions of the variables are in Table B of the appendix. The t-values are calculated using the Huber-White robust standard errors. * indicates significance at ten, ** at five, and *** at one per cent, respectively.

tion results are in columns 5–6 of Table 6. Column 6 of Table 6 reveals that for the subset of low-governance countries, the coefficient of the firm governance indicator is positive and significant, implying that good-governance companies are relatively more often present in these countries. We therefore conclude that we should interpret the negative sign as evidence that there are incentives for

good corporate governance companies to locate their subsidiaries in countries with less strict governance systems.

6. Conclusion

This paper analyses the international location behaviour of multinational enterprises by

Table 6: Differences in MNE presence for various country samples

Sub Sample:	1	2	3	4	5	6
	All countries	High Income Countries (OECD and non-OECD)	Low and Middle Income Countries	Low Income Countries	High Governance Countries	Low Governance Countries
<i>Number of countries</i>	152	38	114	87	71	81
<i>Variable</i>	Coefficient (t-value)					
<i>Log Market Capitalisation</i>	0.236*** (13.74)	0.207*** (8.63)	0.253*** (10.67)	0.272*** (8.54)	0.210*** (11.05)	0.286*** (8.13)
<i>Log Age</i>	0.303*** (19.82)	0.266*** (11.87)	0.333*** (16.03)	0.366*** (14.46)	0.277*** (14.43)	0.361*** (14.80)
<i>Log Liquidity</i>	0.254*** (9.42)	0.327*** (7.93)	0.181*** (5.59)	0.134*** (3.51)	0.311*** (9.34)	0.112*** (3.14)
<i>Leverage</i>	-0.303*** (-2.66)	0.189 (1.41)	-0.838*** (-5.14)	-1.016*** (-4.52)	-0.011 (-0.09)	-1.049*** (-5.21)
<i>Log employees</i>	0.411*** (22.68)	0.340*** (14.06)	0.492*** (24.14)	0.480*** (17.41)	0.378*** (17.20)	0.503*** (20.45)
<i>Former Colony</i>	0.669*** (5.20)	0.432*** (3.29)	0.800*** (4.35)	0.716*** (3.53)	0.577*** (3.59)	0.739*** (3.90)
<i>Governance</i>	0.072*** (3.44)	-0.008 (-0.13)	0.042* (1.91)	0.024 (0.65)	-0.014 (-0.63)	0.064** (2.01)
<i>Governance × Control of Corruption</i>	-0.106*** (-5.83)	-0.014 (-0.30)	-0.096*** (-3.05)	-0.135** (-2.25)		
<i>Pseudo R²</i>	0.148	0.132	0.171	0.177	0.137	0.180
<i>Number of Observations</i>	81,597	20,284	61,313	46,561	38,263	45,178

The estimated logit model is: $\text{Presence} = E[Y_{ij}] = \Lambda(\alpha_i \text{Country}_j + \beta_k \text{Industry} + \eta \text{FormerColony} + \gamma \text{Firm}_i + \delta(\text{Governance}_i \times \text{Business Environment}_i))$. $Y_{ij} = 1$ if MNE i is present in country j . Λ is the logistic function, conditional on *Country* fixed effects. *FormerColony* = 1 if the country is a former colony of the country where the MNE is based. *Firm_i* are the reported firm characteristics. *Industry* are industry dummies. For *Business Environment* we use one combined factor score based on the six *Business Environment* indicators. Higher values of *Governance* indicate better Corporate Governance, higher values of *Business Environment* indicate better regulation and/or lower levels of uncertainty. In the High Governance and Low Governance Countries estimations, we dropped the interaction term. For brevity sake, the country and industry fixed effects are not reported. Definitions of the variables are in Table B of the appendix. The t-values are calculated using the Huber-White robust standard errors. * indicates significance at ten, ** at five, and *** at one per cent, respectively.

explicitly taking account of governance. We analyse governance from the perspective of the firm (corporate governance), as well as from the national perspective (business environment). To this extent, we use a binary location choice model that describes corporate international location decisions. We investigate the internationalisation patterns of 540 European multinationals with more than 40 thousand subsidiaries in 188 countries. We explicitly test whether firms with relatively low governance standards are more often locating in countries with low governance related regulations, i.e. a weak business environment, conditioning for “normal” determinants of location choices. It appears that firms with a relatively high quality of corporate governance do not avoid

to locate in countries with poor governance standards. This is based on the observation that these firms are relatively more often located in countries with poor domestic governance codes. A possible explanation is that this type of location choice behaviour can only be advocated successfully to the stakeholders of the company when corporate governance standards are high indeed. In this case, the various stakeholders might trust the internationally operating firm to deal with unforeseen events in an appropriate manner. Apparently, only companies that have strong corporate governance are able to deal with the uncertainties that are associated with low standards of governance in the destination country. In addition, we find that our results are stronger for low-

income countries, implying that governance standards are specifically important here. These findings are very much in line with other studies that focus on institutional determinants of international location behaviour (e.g. Basile, 2003; Li and Resnick, 2003; Blonigen, 2005; Yamawaki, 2006). In all, we conclude that corporate governance does play a significant role too in international location decisions of MNEs.

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Notes

1. We skip the discussion on general equilibrium models here, since this discussion has little direct relevance to our paper, and refer to Blonigen (2005).
2. The distinction is based on the convention suggested by the World Bank. Thus, high-income countries have an average GDP per capita of \$10,066 in 2004 (54 countries), middle-income countries have an average per capita income between \$826 and \$10,065 in 2004 (93 countries), and the least-developed countries have an average per capita GDP below \$ 825 in 2004 (61 countries).
3. These results are not reported but available on request.

Appendix

Table A: List of included countries

Country Name	Region
Afghanistan	Western Asia
Albania	Europe
Algeria	Africa
American Samoa	Oceania
Andorra	Europe
Angola	Africa
Anguilla	Caribbean and Bahamas
Antarctica	Antarctica
Antigua and Barbuda	Caribbean and Bahamas
Argentina	South America
Armenia	Western Asia
Aruba	Caribbean and Bahamas
Australia	Oceania
Austria	Europe
Azerbaijan	Western Asia
Bahamas	Caribbean and Bahamas
Bahrain	Middle East
Bangladesh	Eastern Asia
Barbados	Caribbean and Bahamas
Belarus	Europe
Belgium	Europe
Belize	Central and North America
Benin	Africa
Bermuda	Central and North America
Bhutan	Eastern Asia
Bolivia	South America
Bosnia and Herzegovina	Europe
Botswana	Africa
Bouvet Island	Antarctica
Brazil	South America

Table A: Continued

Country Name	Region
British Indian Ocean Territory	Africa
Brunei Darussalam	Eastern Asia
Bulgaria	Europe
Burkina Faso	Africa
Burundi	Africa
Cambodia	Eastern Asia
Cameroon	Africa
Canada	Central and North America
Cape Verde	Africa
Cayman Islands	Caribbean and Bahamas
Central African Republic	Africa
Ceuta	Africa
Chad	Africa
Chile	South America
China, People's Republic of	Eastern Asia
Christmas Islands	Oceania
Cocos Islands (or Keeling Islands)	Oceania
Colombia	South America
Comoros	Africa
Congo	Africa
Congo (Democratic Republic of)	Africa
Cook Islands	Oceania
Costa Rica	Central and North America
Côte d'Ivoire	Africa
Croatia	Europe
Cuba	Caribbean and Bahamas
Cyprus	Europe
Czech Republic	Europe
Denmark	Europe
Djibouti	Africa
Dominica	Caribbean and Bahamas
Dominican Republic	Caribbean and Bahamas
Ecuador	South America
Egypt	Africa
El Salvador	Central and North America
Equatorial Guinea	Africa
Eritrea	Africa
Estonia	Europe
Ethiopia	Africa
Falkland Islands	South America
Faroe Islands	Europe
Fiji	Oceania
Finland	Europe
Former Yugoslav Republic of Macedonia	Europe
France	Europe
French Polynesia	Oceania
French Southern Territories	Antarctica
Gabon	Africa
Gambia	Africa
Georgia	Western Asia
Germany	Europe

Table A: Continued

Country Name	Region
Ghana	Africa
Gibraltar	Europe
Greece	Europe
Greenland	Central and North America
Grenada	Caribbean and Bahamas
Guam	Oceania
Guatemala	Central and North America
Guinea	Africa
Guinea-Bissau	Africa
Guyana	South America
Haiti	Caribbean and Bahamas
Heard Island and McDonald Islands	Oceania
Holy See	Europe
Honduras	Central and North America
Hong Kong	Eastern Asia
Hungary	Europe
Iceland	Europe
India	Eastern Asia
Indonesia	Eastern Asia
Iran (Islamic Republic of)	Middle East
Iraq	Middle East
Ireland	Europe
Israel	Middle East
Italy	Europe
Jamaica	Caribbean and Bahamas
Japan	Eastern Asia
Jordan	Middle East
Kazakhstan	Western Asia
Kenya	Africa
Kiribati	Oceania
Korea, Democratic People's Republic of	Eastern Asia
Korea, Republic of	Eastern Asia
Kuwait	Middle East
Kyrgyzstan	Western Asia
Lao People's Democratic Republic	Eastern Asia
Latvia	Europe
Lebanon	Middle East
Lesotho	Africa
Liberia	Africa
Libyan Arab Jamahiriya	Africa
Liechtenstein	Europe
Lithuania	Europe
Luxembourg	Europe
Macao	Eastern Asia
Madagascar	Africa
Malawi	Africa
Malaysia	Eastern Asia
Maldives	Eastern Asia
Mali	Africa
Malta	Europe
Marshall Islands	Oceania

Table A: Continued

Country Name	Region
Mauritania	Africa
Mauritius	Africa
Mayotte	Africa
Melilla	Africa
Mexico	Central and North America
Micronesia (Federated States of)	Oceania
Moldova (Republic of)	Europe
Mongolia	Eastern Asia
Montserrat	Caribbean and Bahamas
Morocco	Africa
Mozambique	Africa
Myanmar	Eastern Asia
Namibia	Africa
Nauru	Oceania
Nepal	Eastern Asia
Netherlands	Europe
Netherlands Antilles	Caribbean and Bahamas
New Caledonia	Oceania
New Zealand	Oceania
Nicaragua	Central and North America
Niger	Africa
Nigeria	Africa
Niue	Oceania
Norfolk Island	Oceania
Northern Mariana Islands	Oceania
Norway	Europe
Occupied Palestinian Territory	Middle East
Oman	Middle East
Pakistan	Western Asia
Palau	Oceania
Panama	Central and North America
Papua New Guinea	Oceania
Paraguay	South America
Peru	South America
Philippines	Eastern Asia
Pitcairn	Oceania
Poland	Europe
Porto Rico	Caribbean and Bahamas
Portugal	Europe
Qatar	Middle East
Romania	Europe
Russian Federation	Europe
Rwanda	Africa
Saint Helena	Africa
Samoaemen	Oceania
San Marino	Europe
Sao Tome and Principe	Africa
Saudi Arabia	Middle East
Senegal	Africa
Serbia and Montenegro	Europe
Seychelles	Africa

Table A: Continued

Country Name	Region
Sierra Leone	Africa
Singapore	Eastern Asia
Slovakia	Europe
Slovenia	Europe
Solomon Islands	Oceania
Somalia	Africa
South Africa	Africa
South Georgia and South Sandwich Islands	Antarctica
Spain	Europe
Sri Lanka	Eastern Asia
St Kitts and Nevis	Caribbean and Bahamas
St Lucia	Caribbean and Bahamas
St Pierre and Miquelon	Central and North America
St Vincent and Grenadines	Caribbean and Bahamas
Sudan	Africa
Suriname	South America
Swaziland	Africa
Sweden	Europe
Switzerland	Europe
Syrian Arab Republic	Middle East
Taiwan	Eastern Asia
Tajikistan	Western Asia
Tanzania (United Republic of)	Africa
Thailand	Eastern Asia
Timor-Leste	Eastern Asia
Togo	Africa
Tokelau	Oceania
Tonga	Oceania
Trinidad and Tobago	Caribbean and Bahamas
Tunisia	Africa
Turkey	Middle East
Turkmenistan	Western Asia
Turks and Caicos Islands	Caribbean and Bahamas
Tuvalu	Oceania
Uganda	Africa
Ukraine	Europe
United Arab Emirates	Middle East
United Kingdom	Europe
United States	Central and North America
United States Minor Outlying Islands	Oceania
Uruguay	South America
Uzbekistan	Western Asia
Vanuatu	Oceania
Venezuela	South America
Viet-Nam	Eastern Asia
Virgin Islands (British)	Caribbean and Bahamas
Virgin Islands (US)	Caribbean and Bahamas
Wallis and Futuna	Oceania
Yemen	Middle East
Zambia	Africa
Zimbabwe	Africa

Table B: Variables and sources

Variable	Definition	Source
<i>Governance Bribery and Corruption</i>	"Does the company have policies and procedures on bribery and corruption?" (No policy disclosed = 1, Has adopted a policy = 2, Has clear policy and procedures = 3)	EIRIS
<i>Governance Code of Ethics</i>	"Does the Company have a code of ethics and, if so, how comprehensive is it?" (No = -1, Limited = 0, Basic = 1, Intermediate = 2, Advanced = 3)	EIRIS
<i>Governance Code of Ethics Systems</i>	"Does the Company have a system for implementing a code of ethics and, if so, how comprehensive is it?" (No = -1, Limited = 0, Basic = 1, Intermediate = 2, Advanced = 3)	EIRIS
<i>Governance Business Principles</i>	"Has the company adopted a code of ethics or business principles which it communicates to all employees?" (No evidence of = 1, Has adopted = 2, Clearly communicates = 3)	EIRIS
<i>Governance</i>	Factor Scores based on a factor analysis of the above four Corporate Governance indicators.	Own Calculations
<i>Total Assets</i>	Reported total assets as of 2004 in thousands of U.S. dollars.	Amadeus
<i>Leverage</i>	Ratio of: (current liabilities + non-current liabilities)/total assets as of 2004.	Amadeus
<i>Age</i>	Age in years of the company as of 2004, based on the reported date of incorporation	Amadeus
<i>Employees</i>	Number of reported employees as of 2004	Amadeus
<i>Liquidity</i>	Reported Liquidity ratio (%) as of 2004	Amadeus
<i>Market Cap</i>	Free Float Market Capitalisation (in billion EUR) as of 03.01.2005	Dow Jones Stoxx
<i>Control of corruption Voice and accountability Rule of Law Government effectiveness Regulatory quality Political stability</i>	Based on several hundred indicators, drawn from 37 separate data sources constructed by 31 different organisations. Compiled using an unobserved component technique by Kaufmann <i>et al.</i> (2005).	Worldbank, see Kaufmann <i>et al.</i> (2005)

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